INTISARI

ODELIA CHRISTIANA UTAMI. NIM 1191044. 2022. Profil Logam Berat Arsen (As) pada Darah Petani yang Menggunakan Pestisida Organoklorin di Desa Bakipandeyan Sukoharjo.

Pestisiada untuk meningkatkan produksi pertanian, perkebunan, dan memberantas vektor penyakit. Penggunaan pestida juga mengandung resiko karena sifat toksik pada manusia, lingkungan dan ekosistem. Pestisida mengandung arsen berdampak buruk. Tubuh terpapar arsen melalui air, udara, makanan, dan tanah. Berdasarkan permasalahan diatas peneliti tertarik melakukan penelitian profil kadar logam berat arsen pada darah petani. Tujuan penelitian untuk mengetahui kadar logam berat arsen pada darah petani dan untuk mengetahui apakah kadar arsen didalam darah melebihi nilai ambang batas normal WHO yaitu <10 µg/L

Jenis penelitian adalah deskriptif. Teknik sampling yang digunakan *quota sampling* sebanyak 15 responden. Penelitian ini dilakukan di Balai Standarisasi dan Pelayanan Jasa Industri Surabaya menggunakan Spektrofotometer Serapan Atom pada bulan April-Mei 2022

Hasil penelitian didapatkan dari 15 responden 66,7% responden memiliki waktu lama bekerja ≥10 tahun kadar arsen rata-rata 1.09276667 µg/L sedangkan sebanyak 33,5% memiliki waktu lama bekerja ≤10 tahun rata-rata kadar arsen 0,98746 µg/L. Dari 15 reponden 40% yang menggunakan alat pelindung diri lengkap mimiliki rata-rata kadar arsen 1.141557143 µg/L, sedangkan 60% yang tidak menggunkan alat pelindung diri lengkap memiliki rata-rata kadar arsen 1.0107125 µg/L. Dari 15 responden 86,7% memiliki kontak terakhir dengan pestisida ≤1 minggu kadar rata-rata arsen 1.08695 µg/L, sedangkan 13,3% memiliki kontak terakhir dengan pestisida ≥1 minggu rata-rata kadar arsen 1.0114 µg/L. Kesimpulan penelitian pemeriksaan Kadar Arsen di dalam darah petani di Desa Bakipandeyan Sukoharjo normal dengan nilai ambang batas <10 µg/mL menururt WHO

Kata kunci : Arsen, Petani, Spektrofotometer Serapan Atom

ABSTRACT

ODELIA CHRISTIANA UTAMI. NIM 1191044. 2022. Heavy Metal Profile of Arsenic (As) in the Blood of Farmers Using Organoclorine Pesticides in Bakipandeyan Village Sukoharjo.

Pesticides have been widely used to increase agricultural production, plantations, and eradicate disease vectors, but the use of pesticides also carries risks due to its toxic nature to humans and its impact on the environment and ecosystem. The body can be exposed to arsenic through water, air, food, and soil including the use of pesticides and fertilizers. Based on the above problems, researchers are interested in conducting research on the profile of heavy metal levels of arsenic in the blood of farmers who use chemical pesticides in Baki Pandeyan Village, Sukoharjo. The purpose of this study was to determine the level of heavy metal arsenic in the blood of farmers and to determine whether the level of arsenic in the blood exceeded the WHO normal threshold value of <10 g/L.

This type of research is descriptive research. The research sampling technique used was quota sampling as many as 15 respondents. This research was conducted at the Surabaya Industrial Service and Standardization Center using an Atomic Absorption Spectrophotometer in April-May 2022.

The results obtained from 15 respondents 66.7% of respondents had a long working time > 10 years the average arsenic content was 1.09276667 g/L while 33.5% had a long working period of <10 years, the average arsenic level was 0.98746 g/ L. Of the 15 respondents, 40% who used complete personal protective equipment had an average arsenic level of 1.141557143 g/L, while 60% who did not use complete personal protective equipment had an average arsenic level of 1.0107125 g/L. Of the 15 respondents, 86.7% had last contact with pesticides <1 week, the average level of arsenic was 1.08695 g/L, while 13.3% had last contact with pesticides >1 week, the average level of arsenic was 1.0114 g/L.Arsenic levels in the blood of farmers in bakipandeyan village, sukoharjo meet the normal threshold value of <10 µg/mL according to WHO

Keywords : Arsenic, Farmer, Atomic Absorption Spectrophotometer